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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,570	08/05/2003	Vito R. Gervasi	66182-9020-02	6967
23409 7590 06/08/2007 MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202			EXAMINER SIMONE, CATHERINE A	
			ART UNIT 1772	PAPER NUMBER
			MAIL DATE 06/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/634,570

**Applicant(s)**

GERVASI ET AL.

**Examiner**

Catherine Simone

**Art Unit**

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Withdrawn Rejections***

1. The 35 U.S.C. 102(a) rejection of claims 21-24 and 28-40 as anticipated by Nguyen et al. of record in the previous Office Action mailed 6/28/06, Pages 2-4, Paragraph #2 has been withdrawn due to the Applicant's amendment filed 2/1/07.
2. The 35 U.S.C. 102(b) rejection of claims 21-24, 28, 29, 35-37, 39 and 40 as anticipated by Haselbauer of record in the previous Office Action mailed 6/28/06, Pages 5-6, Paragraph #4 has been withdrawn due to the Applicant's amendment filed 2/1/07.
3. The 35 U.S.C. 103(a) rejection of claims 25-27 over either Nguyen et al. or Haselbauer of record in the previous Office Action mailed 6/28/06, Pages 6-7, Paragraph #6 has been withdrawn due to the Applicant's amendment filed 2/1/07.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 21-40 have been considered but are moot in view of the new ground(s) of rejection, which are presented below.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al. (US 5,855,718).

Regarding claim 21, Nguyen et al. disclose a three-dimensional object comprising a first one-piece build style lattice including a plurality of substantially uniform build style units (Fig. 1b, element 18) and a second one-piece build style lattice (Fig. 1d, element 26 or Fig. 1f, element 34) overlapped and connected with the first lattice (see Fig. 1g and col. 6, lines 43-47), the second lattice including a plurality of substantially uniform build style units (Fig. 1d, element 26 or Fig. 1f, element 34). However, Nguyen et al. fail to teach the second lattice being integrally formed with the first lattice. It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have the second lattice integrally formed with the first lattice in Nguyen et al., since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. See MPEP 2144.04 (V) B.

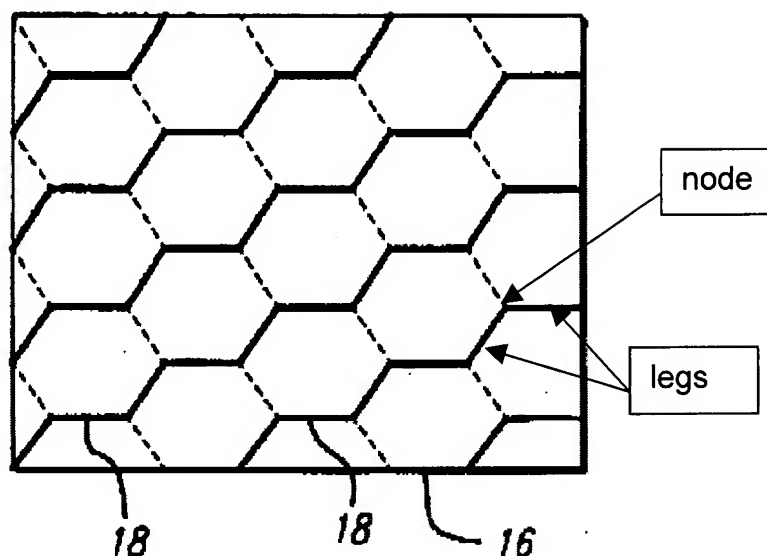
Furthermore, it is to be pointed out that the limitation "interlaced" is a method of production and the method of forming the product is not germane to the issue of patentability of the product itself. See MPEP 2113.

Regarding claim 22, the first lattice is made of a first material and the second build style lattice is made of a second material (col. 11, lines 46-47). Regarding claim 23, the first build style lattice (Fig. 1b, element 18) includes a plurality of interconnected legs and nodes (see Fig. 1b shown below). Regarding claim 24, the legs of the first build style lattice appear to have a substantially uniform thickness (see Fig. 1b shown below). Regarding claim 28, the first and second build style lattices inherently define therebetween an interface, since the lattices are

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overlapping each other (col. 6, lines 45-46). Regarding claim 29, the interface is substantially hollow (see col. 2, line 64). Regarding claim 30, the interface is occupied by a fluid (col. 2, line 56 and col. 4, lines 1-2). Regarding claim 31, the interface defines at least one channel for conducting a fluid along a predetermined path (col. 9, line 13). Regarding claim 32, the channel has a cross-section which narrows to define a capillary (col. 9, lines 10-11). Regarding claim 33, the interface is occupied by a solid material (col. 2, line 62). Regarding claim 34, the interface is occupied by the legs of the first and second build style lattices (Fig. 1g and see col. 2, lines 55-61). Regarding claim 35, note the object includes a boundary skin and wherein the first build style lattice supports the skin (col. 10, lines 28-32). Regarding claim 36, note the second build style lattice supports the boundary skin (see col. 10, lines 28-32). Regarding claim 37, note the legs of the first lattice are hollow (Fig. 1b, element 18). Regarding claim 38, the legs of the first build style lattice define respective bores having an inner diameter and wherein the inner diameters of the bores vary to form at least one capillary (col. 9, lines 7-15). Regarding claim 39, note a boundary skin supported by at least one of the first and second build style lattices (col. 10, lines 28-32).

*FIG. 1b*



Regarding claim 25, the legs and nodes of the second lattice in Nguyen et al. appear to have a substantially uniform thickness (Fig. 1d, element 26 and Fig. 1f, element 34). However, Nguyen et al. fail to teach the thickness of the interconnected legs and nodes of the second lattice being different from the thickness of the legs of the first lattice. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the thickness of the legs and nodes of the second lattice in Nguyen et al. to be different from the thickness of the legs of the first lattice, since it has been held that a change in the design of the legs and nodes would be an unpatentable modification in absence of showing unexpected results and it has been held to be within the general skill of a worker in the art to select a known design on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding claims 26 and 27, the object in Nguyen et al. has a first region and a second region, wherein the first and second lattices extend into the first region and the second region

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(col. 2, lines 58-67). However, Nguyen et al. fail to teach the thickness of the legs of the first lattice and the thickness of the legs of the second lattice varying inversely from the first region to the second region. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the thickness of the legs of the first lattice and the thickness of the legs of the second lattice in Nguyen et al. to vary inversely from the first region to the second region, since it has been held that a change in the design of the legs would be an unpatentable modification in absence of showing unexpected results and it has been held to be within the general skill of a worker in the art to select a known design on the basis of its suitability for the intended use as a matter of obvious design choice.

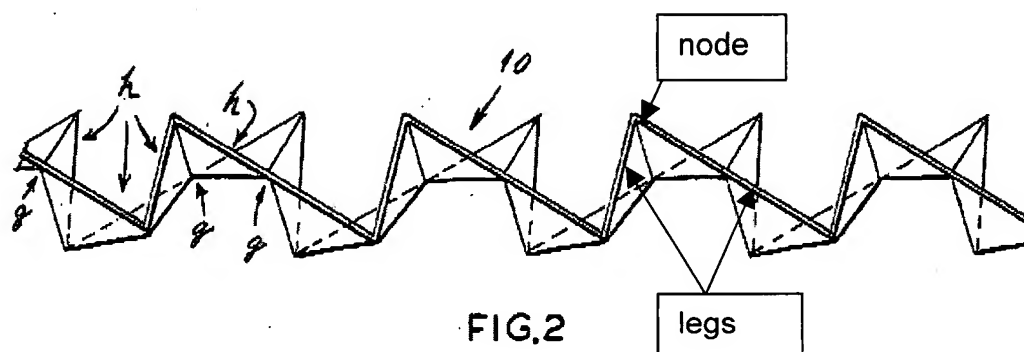
7. Claims 21-24, 28, 29, 35-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haselbauer (US 4,020,205).

Haselbauer discloses a three-dimensional object comprising a first one-piece build style lattice including a plurality of substantially uniform build style units (Fig. 2, element 10) and a second one-piece build style lattice (Fig. 3, element 12) connected with the first lattice (see Fig. 7), the second lattice including a plurality of substantially uniform build style units (Fig. 3, element 12). However, Haselbauer fails to teach the second lattice being integrally formed with the first lattice. It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have the second lattice integrally formed with the first lattice in Haselbauer, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. See MPEP 2144.04 (V) B.

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Furthermore, it is to be pointed out that the limitation “interlaced” is a method of production and the method of forming the product is not germane to the issue of patentability of the product itself. See MPEP 2113.

Regarding claim 22, the first lattice is made of a first material and the second build style lattice is made of a second material (col. 2, lines 22-29). Regarding claim 23, the first build style lattice (Fig. 2, element 10) includes a plurality of interconnected legs and nodes (see Fig. 2 shown below). Regarding claim 24, the legs of the first build style lattice appear to have a substantially uniform thickness (see Fig. 2 shown below). Regarding claim 28, the first and second build style lattices inherently define therebetween an interface since the lattices are joined together (see Fig. 7 and see col. 3, lines 51-64). Regarding claim 29, the interface is substantially hollow (see Fig. 7 and see col. 3, lines 51-64). Regarding claim 35, note the object includes a boundary skin and wherein the first build style lattice supports the skin (see col. 4, line 7). Regarding claim 36, note the second build style lattice supports the boundary skin (see col. 4, line 7). Regarding claim 37, note the legs of the first lattice appear to be hollow (Fig. 2, element 10). Regarding claim 39, note a boundary skin supported by at least one of the first and second build style lattices (see col. 4, line 7).






*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571)272-1501. The examiner can normally be reached Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Catherine A. Simone  
Examiner  
Art Unit 1772  
June 1, 2007

 6/6/07  
NASSER AHMAD  
PRIMARY EXAMINER